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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|----------------------------|------------------|
| 10/805,953 | 03/22/2004 | Daniel P. Lawrence | 589800194DVE | 9892 |
| 27572 | 7590 | 08/13/2004 | | EXAMINER |
| HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303 | | | VIJAYAKUMAR, KALLAMBELLA M | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1751 | |

DATE MAILED: 08/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|------------------------------|-------------------------|---------------------|--|
| | 10/805,953 | LAWRENCE ET AL. | |
| | Examiner | Art Unit | |
| | Kallambella Vijayakumar | 1751 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 22 March 2004.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-4 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-4 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1.
4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. .
5) Notice of Informal Patent Application (PTO-152)
6) Other: .

DETAILED ACTION

This is a divisional of co-pending application with SI. No. 10/075,777 filed 02/14/2002. Claims 1-4 are currently pending with the application.

Claim Rejections - 35 USC § 102

Claim Rejections - 35 USC § 103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- (c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 1-4 are rejected under 35 U.S.C. 102(e/a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Takeda et al (U. S. Patent 6,355,598).

Takeda et al disclose printing of a circuit capable of making a resonance with high frequency wave having a coil and a condenser, wherein the circuit was printed on a thermal transfer sheet by gravure printing of a conductive ink comprising of styrene-acrylic emulsion that was disposed between two components forming an electrical circuit, and this would meet the limitations of conductive ink containing conductive particles and specific resin in claims 1-2, and an electrical circuit in claim-1. Takeda et al further disclose forming a coil like circuit that was disposed between a dielectric material and a circuit for a condenser electrode that would meet the limitations of 3-4 (Col-7, Lines: 9-36, Col-13, Line-58 to Col-14, Line-51, Col-15, Lines: 13-23). When the reference teaches a product that appears to be the same as, or an obvious variant of, the product set forth in a product-by-process claim although produced by a different process, the claim is not patentable. See *In re Marosi*, 710 F.2d 799, 218 USPQ 289 (Fed. Cir. 1983) And *In re Thorpe*, 777 F.2d 695, 227 USPQ 964 (Fed. Cir. 1985). See also MPEP §2113. All the limitations of the instant claims are met.

The reference is anticipatory.

In the alternative that the disclosure by Takeda et al be insufficient to arrive at the limitations of the instant claims, it would have been obvious to a person of ordinary skill in the art at the time of disclosure of invention by the applicants, to modify the composition of the Takeda et al by optionally choosing styrene-acrylic-emulsion as the preferred binder because it was customary to use this binder in aqueous ink systems to reduce emissions of VOC and form good deposition of the metals on substrates forming imprints and circuits by gravure printing because of its simplicity, because Takeda et al teach such modifications and with the expectation of reasonable success in obviously arriving at the limitations of instant claims by the applicants.

2. Claims 1-4 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Morizumi et al (EP 014302).

Morizumi et al disclose printing of an antenna circuit and IC chip connection terminal by printing of conductive ink comprising 70-80% Ag particles in a thermosetting resin such as styrene/maleic copolymer resin and a surfactant, wherein antenna circuit connects antenna and the antenna terminal. Morizumi also teach the use of gravure printing for printing the circuit. Styrene-maleic acid copolymer would meet the limitation of specific resins in instant claims 1-2 (Abstract, Sections: 0031-0039). All the limitations of the instant claims are met

The reference is anticipatory.

In the alternative that the disclosure by Morizumi et al be insufficient to arrive at the limitations of the instant claims, it would have been obvious to a person of ordinary skill in

the art at the time of disclosure of invention by the applicants, to modify the composition of the Morizumi et al by optionally choosing styrene-acrylic-emulsion as the preferred binder because it was customary to use this binder in aqueous ink systems to reduce emissions of VOC and form good deposition of the metals on substrates forming imprints and circuits by gravure printing because of its simplicity, because Morizumi et al teach such modifications and with the expectation of reasonable success in obviously arriving at the limitations of instant claims by the applicants.

Conclusion

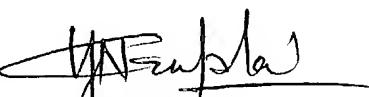
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Morizumi et al (US Patent 6,459,588).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kallambella Vijayakumar whose telephone number is 571-272-1324. The examiner can normally be reached on M-Th, 07.00 - 16.30 hrs, Alt. Fri: 07.00-15.30 hrs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KMV
August 09, 2004.


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SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700